

***Rhyacionia zozana* (Lepidoptera: Tortricidae), Host of *Hockeria tenuicornis* (Hymenoptera: Chalcididae) in Oregon**

JEFFREY A. HALSTEAD AND CHRISTINE G. NIWA

(JAH) 2110 N. Hayes, Fresno, California 93722; (CGN) Pacific Northwest Research Station, Forestry Sciences Laboratory, 3200 Jefferson Way, Corvallis, Oregon 97331.

Abstract.—A new parasite-host record of *Hockeria tenuicornis* (Girault) from *Rhyacionia zozana* (Kearfott), a pest of pines, is presented. This information represents the first host report and a new state record (Oregon) for *Hockeria tenuicornis*.

Hockeria tenuicornis (Girault) is one of ten species of *Hockeria* Walker that occur in North America (Halstead, unpublished). This wasp, described by Girault, (1918) is known from Arizona, California, and Montana (Burks 1979). The hosts only three North American species of *Hockeria* have been recorded: larvae of *Myrmeleon immaculatus* DeGeer and *Myrmeleon* sp. (Neuroptera: Myrmeleontidae) for *Hockeria eriensis* (Wallace); pupae of *Neodiprion excitans* Rohwer and *Neodiprion* sp. (Hymenoptera: Diprionidae) for *Hockeria unipunctatipennis* (Girault); and *Harrisina brillians* Barnes and McDunnough (Lepidoptera: Zygaenidae) for *Hockeria rubra* (Ashmead) (Burks 1979).

The genus *Rhyacionia* contains several species that are economically important pests of pines (*Pinus* spp.) in nurseries, ornamental plantings, and in natural and planted reforestation projects (Powell and Miller 1978). One such species, *Rhyacionia zozana* (Kearfott), attacks various species of pines (*Pinus ponderosa*, *jeffreyi*, *contorta*, *edulis*, *monophylla*, *monticola*, and *flexilis*) in the western United States (Stevens et al. 1980, Powell and Miller 1978). The parasites of *Rhyacionia* have been the subject of many studies (see Harman and Kulman 1973, Yates 1967).

During studies on the parasite complex of *Rhyacionia zozana*, five female specimens of *Hockeria tenuicornis* were reared. One wasp was obtained from a collection of 729 third and fourth instars and the other four specimens from a collection of about 7,000 cocoons. All wasps emerged from *Rhyacionia zozana* cocoons the spring after their collection.

One voucher specimen (#001) of *Hockeria tenuicornis* is deposited in the United States Museum of Natural History, Washington, D.C. The rearing data are as follows: Cave Mountain, Klamath County, Oregon, exit *Rhyacionia zozana* on ponderosa pine, *Pinus ponderosa*, 18.v.85, Christine Niwa collector.

These data represent two new records for *Hockeria tenuicornis*, a host in North America, and its occurrence in Oregon (new state record).

ACKNOWLEDGMENTS

The authors wish to thank D. J. Burdick, Department of Biology, California State University Fresno, Fresno, California; N. J. Smith, Fresno County Agricultural

Commissioner's Office, Fresno, California; and R. D. Haines, Tulare County Agricultural Commissioner's Office, Visalia, California, for editorial comments on this paper.

LITERATURE CITED

- Burks, B. D. 1979. Chalcididae. Pp. 860–874. *In* K. V. Krombein et al. (eds.), Catalog of Hymenoptera in America North of Mexico. Vol. I. Smithsonian Inst. Press, Washington, D.C., 1198 pp.
- Girault, A. A. 1918. New and old West Indian and North America chalcid-flies (Hym.). *Ent. News* 29:125–131.
- Harman, D. M., and H. M. Kulman (eds.). 1973. A world survey of the parasites and predators of the genus *Rhyacionia*, Parts I to IV. Univ. of Maryland Nat. Resources Inst., Contrib. No. 527, 179 pp.
- Powell, J. A., and W. E. Miller. 1978. Nearctic pine tip moths of the genus *Rhyacionia*: biosystematic review (Lepidoptera: Tortricidae, Olethreutinae). USDA For. Serv., Agric. Hdbk. No. 514, 51 pp.
- Stevens, R. E., C. Sartwell, T. W. Koerber, G. E. Daterman, L. L. Sower, and J. A. Powell. 1980. Western *Rhyacionia* (Lepidoptera: Tortricidae, Olethreutinae) pine tip moths trapped using synthetic sex attractants. *Can. Entomol.* 112:591–603.
- Yates, H. O. 1967. Key to nearctic parasites of the genus *Rhyacionia*: with species annotations. USDA For. Serv., Southeast For. Exp. Stn., Asheville, N.C., 127 pp.